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Amendment to the Claims

Claims 1 - 4. (Canceled)

5. (Currently amended): An isolated nucleic acid molecule which encodes a polypeptide having an amino acid sequence of SEQ ID NO: 12 or an amino acid sequence having at least ~~40%~~ 95% sequence identity thereto, wherein said polypeptide is a transmembrane protein which has ~~2,5-diketo-gluconate~~ 2,5-diketo-D-gluconic acid (2,5-DKG) permease activity.

6. (Canceled)

7. (Previously presented): The isolated nucleic acid molecule of claim 5, which encodes a polypeptide having the amino acid sequence of SEQ ID NO: 12.

Claim 8 - 10. (Canceled)

11. (Currently amended): An isolated nucleic acid molecule comprising a polynucleotide which encodes a polypeptide having an amino acid sequence of SEQ ID NO. 12 or an amino acid sequence having at least ~~40%~~ 95% sequence identity thereto, wherein said polypeptide has ~~2,5-diketo-gluconate~~ 2,5-diketo-D-gluconic acid (2,5-DKG) permease activity, and wherein the polynucleotide is operatively linked to a promoter of gene expression.

12. (Original): The isolated nucleic acid molecule of claim 11, wherein said promoter is a *lac* promoter.

13. (Original): A vector comprising the isolated nucleic acid molecule of claim 11.

14. (Original): The vector of claim 13, comprising a spectromycin resistance gene.

15. (Original): A bacterial cell, comprising the vector of claim 13.

Claims 16 - 19. (Canceled)

20. (Original): The bacterial cell of claim 15, which is of the genus *Klebsiella*.

21. (Currently amended): The bacteria cell of claim 15, which is deficient in endogenous 2,5-DKG permease activity.

22. (Currently amended): The bacterial cell of claim 21, further comprising an isolated nucleic acid molecule encoding a polypeptide having 2-keto reductase activity, said polypetide having at least 95% ~~and at least 80%~~ sequence identity to SEQ ID NO: 14.

23. (Currently amended): The bacterial cell of claim 21, further comprising an isolated nucleic acid molecule encoding a polypeptide having 5-keto reductase activity, said polypetide having at least 95% ~~and at least 80%~~ sequence identity to SEQ ID NO: 16.

24. (Original): The bacterial cell of claim 15, which is of the genus *Pantoea*.

25. (Previously presented): The bacterial cell of claim 15, which expresses an enzyme that catalyzes the conversion of 2,5-DKG to 2-keto-L-gulonic acid (2-KLG) .

26. (Original): The bacterial cell of claim 25, which expresses enzymes that catalyze the conversion of glucose to 2,5-DKG.

27. (Original): The bacterial cell of claim 26, which is deficient in endogenous 2-keto-reductase activity.

Claims 28 – 35. (Canceled)

36. (Currently amended): A method of enhancing ~~using the isolated nucleic acid molecule of claim 5 to enhance~~ 2-keto-L-gulonic acid (2-KLG) production, comprising
a) introducing ~~the isolated~~ an isolated nucleic acid molecule ~~of claim 5~~ encoding a polypeptide having at least 95% sequence identity to SEQ ID NO: 12 into a bacterial cell which expresses an enzyme that catalyzes the conversion of 2,5-diketo-D-gluconic acid (2,5-DKG) to 2-KLG, b) allowing expression of the polypeptide encoded by said nucleic acid molecule and c) culturing the bacterial cell under suitable conditions to produce 2-KLG.

37. (Original): The method of claim 36, wherein said bacterial cell further expresses enzymes that catalyze the conversion of glucose to 2,5-DKG.

38. (Original): The method of claim 37, wherein said bacterial cell is deficient in endogenous 2-keto reductase activity.

39. (Original): The method of claim 36, wherein said bacterial cell is of the genus *Pantoea*.

40. (Original): The method of claim 36, further comprising converting said 2-KLG to ascorbic acid.

Claims 41 – 48. (Canceled)

49. (Previously presented): The bacterial cell of claim 15, which is an *E. coli* cell.

50. (Canceled)

51. (Previously presented): The method of claim 36, wherein the nucleic acid molecule has the sequence of SEQ ID NO: 11 or a sequence having at least 95% sequence identity thereto.

52. (Currently amended): A method for increasing the transport of ~~2, 5 DKG~~ 2, 5 diketo-D-gluconic acid (2, 5 DKG) across a cell membrane into a bacterial host cell comprising a) introducing ~~the~~ an isolated nucleic acid molecule ~~of claim 5 having 2,5 DKG permease activity~~ into a bacterial host cell, wherein the nucleic acid molecule encodes a protein comprising at least 95% sequence identity to SEQ ID NO: 12 and said protein having 2,5 DKG permease activity, b) allowing expression of the ~~2,5 DKG permease~~ protein and c) culturing the bacterial host cell under suitable conditions for the transport of 2,5-DKG into the bacterial host cell.

53. (Previously presented): The method according to claim 52, wherein the bacterial host cell is an *E. coli*, *Pantoea* or *Klebsiella* host cell.

54. (Canceled)

55. (Previously presented): The method according to claim 52, wherein the nucleic acid molecule has the sequence of SEQ ID NO: 11 or a sequence having at least 95% sequence identity thereto.

56. (Canceled)

57. (New): The method according to claim 36, wherein said polypetide has the sequence of SEQ ID NO: 12.

58. (New): The method according to claim 36, wherein the bacterial host cell is an *E. coli*, *Pantoea* or *Klebsiella* host cell.

59. (New): The method according to claim 52, wherein said polypetide has the sequence of SEQ ID NO: 12.

60. (New): The method according to claim 53, wherein the bacterial host cell is a *Klebsiella* cell.

61. (New): The method according to claim 53, wherein the bacterial host cell is an *E. coli* cell

62. (New): The method according to claim 53, wherein the bacterial host cell is a *Pantoea* cell

63. (New): The method according to claim 53, wherein the bacterial host cell is deficient in endogenous 2,5 DKG permease activity.

64. (New): The method according to claim 53, wherein the bacterial host cell further comprises a nucleic acid molecule encoding a polypeptide having 2-keto reductase activity and at least 95% sequence identity to SEQ ID NO: 14.

65. (New): The method according to claim 53, wherein the bacterial host cell further comprises an isolated nucleic acid molecule having 5-keto reductase activity and at least 95% sequence identity to SEQ ID NO: 16.

66. (New): The method according to claim 53, wherein the bacterial host cell expresses an enzyme that catalyzed the conversion of 2,5-DKG to 2-keto-L-gulonic acid (2-KLG).

67. (New): The method according to claim 53, wherein the nucleic acid molecule encoding the protein having 2,5-DKG permease activity is operably linked to a lac promoter